

# **RESULTS OF THE 2002 HAWAII SEAT BELT USE SURVEY**

Report to the Department of Transportation  
State of Hawaii

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## **I. INTRODUCTION**

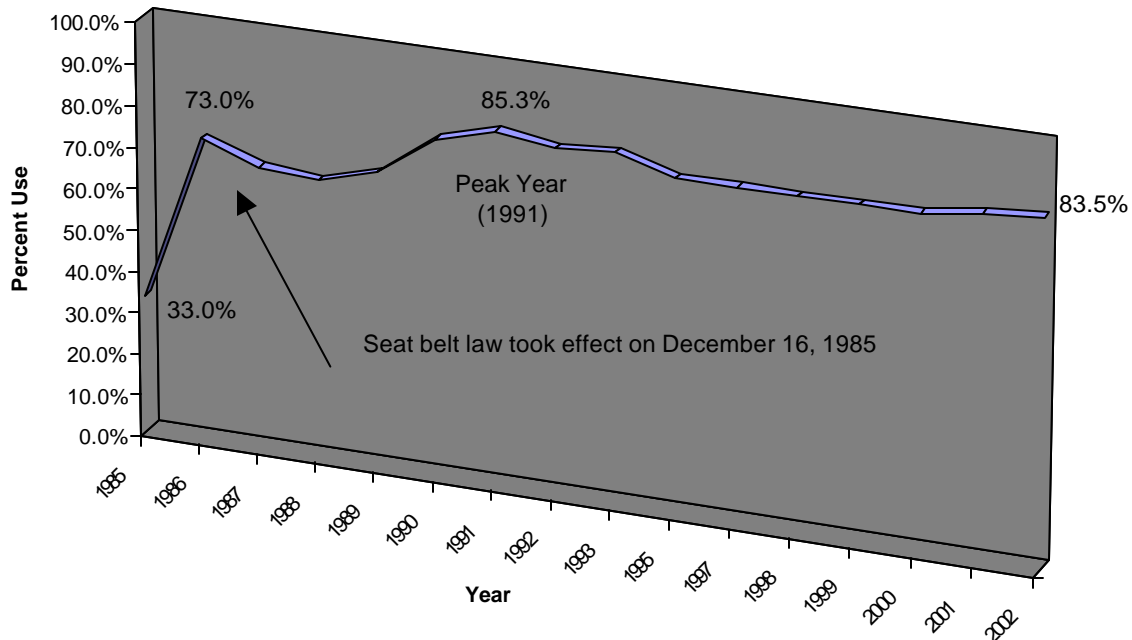
This report contains the results of the 2002 Hawaii Statewide Seat Belt Use Survey. Hawaii's seat belt law, HRS§291-11.6, requires all drivers and front-seat passengers four years of age and older to use seat belts. Hawaii has a "primary enforcement" law, meaning that police officers can stop and cite motorists who are in violation of the seat belt law. In "secondary enforcement" states, motorists must be in violation of another law before police can stop and cite them. Studies have shown that belt use rates are higher in states where the law allows primary enforcement of seat belt use. In Hawaii, unbelted front-seat occupants 15 years of age and older can be ticketed and charged a fine for violating the law. If the unbelted front-seat occupant is under the age of 15, the driver is ticketed and fined. Currently, the fine is \$45.

Data were collected statewide and analyzed by the University of Hawaii's Department of Urban and Regional Planning (DURP). Field surveys were conducted between January and March of 2002 at 136 sites on the islands of Oahu, Maui, Hawaii, and Kauai. The methodology is similar to the one used in previous studies conducted annually from 1985 through 2001 to ensure compatibility of data over the years. However, this year, new Palm handheld computer technology was integrated into the data collection methods in place of the previously used paper survey forms. A total of 50,788 front-seat occupants were observed throughout the state.

## **II. SUMMARY**

Overall seat belt use has remained relatively stable over the past several years. The results of the 2002 seat belt study show that overall seat belt use increased from 82.5% in the year 2001 to 83.5% in 2002. While these numbers are above the national observed average of 73% (2001), rates have yet to exceed the 85.3% peak observed in 1991. Seat belt use increased sharply throughout the state after implementation of the seat belt law in December of 1985. Prior to that, in 1985, seat belt use was only 33.0%. From 1990 to 2002, statewide seat belt use rates ranged between 80% and 85%. Figure 1 depicts these trends.

**FIGURE 1**  
**OVERALL SEAT BELT USE BY YEAR, 1985-2002**



### III. METHODOLOGY

**Sample design.** A total of 136 observation sites were selected throughout the state (66 sites on Oahu, 24 on Maui, 24 on Hawaii, and 22 on Kauai). Information on the sites can be found in Appendix A9 of this report. The sampling frame includes different road types (i.e., freeway, highway, collector, and local) and volume levels (i.e., high and low). Seat belt estimates were reported according to vehicle type (i.e., car, light truck, van, and sport utility vehicles), occupant position (i.e., driver and front seat passenger), road conditions (i.e., speed limit, number of lanes, and weather conditions), and time (i.e., time of day and day of the week).

A probability-based design was used to produce estimates of seat belt use for the entire state. Site selection was based on three different objectives: (1) to ensure adequate counts to enable statewide, county, and district level estimates of seat belt use; (2) to ensure a mix of roadway types, volumes, and locations (urban, suburban, and rural); and (3) to allow for comparison across different time periods. Sites were randomly selected from high volume and low volume roadway types. Due to resource constraints, some of the extremely low volume sites were excluded from the final sample. The sites were distributed across each county proportionate to population. Site selection has remained relatively the same since 1986 to ensure compatibility of data across time. The sampling procedures are consistent with federally approved guidelines for seat belt use studies.

**Observation requirements.** Observers worked in teams of two. Each team was given standardized training and tested for inter-observer reliability. Training included safety requirements for parking at or near the observation sites, the protocol for conducting observations, and guidelines for avoiding potentially dangerous situations. This year, new technology was integrated into the data collection method. Observers were specifically trained to enter observations into a Palm handheld computer database in order to facilitate accurate data entry and verification. Previously used paper survey forms were phased out.

Observation teams spent approximately 40 to 50 minutes during daylight hours at each site—depending upon traffic volume. The length of observation time was altered this year in order to compensate for technological inefficiencies associated with the Palms. Overall, this amount of time is sufficient to capture enough cases for analysis of low and high volume sites. Observers were given exact street locations, specified by a main street and intersecting street, and the direction of traffic to be observed. The specifications provided were consistent with those used in previous years. For each site and traffic direction, one observer observed all front-seat occupants, while the other member input the data. Observers were instructed to record only those vehicles for which they were certain about occupant seat belt use.<sup>1</sup> The databases were then transferred and prepared for analysis at DURP using SAS, a statistical analysis package.

#### **IV. FINDINGS**

The following four sections of this report discuss the findings of the 2002 survey in detail. The results of the analysis are described according to four different aspects of seat belt use. They include details on:

- (1) differences by island;
- (2) differences by factor;
- (3) differences by gender; and
- (4) differences between day and night time periods.

##### **(1) DIFFERENCES BY ISLAND**

Statewide seat belt use rates during 2002 were similar to use rates observed over the past several years. Most of the data were collected on Oahu, the state's most populous island. In total, 30,127 front seat occupants were observed on Oahu. On Maui, 8,012 occupants were observed. On Hawaii and Kauai, 7,389 and 5,260 front seat occupants were observed respectively.

The results of the 2002 survey show that the island of Kauai once again had the highest seat belt use rate. The belt use rate on the island was 87.7%—an increase from the 86.3% observed during the previous year. Hawaii followed closely behind with an 86.4% belt use rate—similar to the 86.3% rate observed on the island last year. Belt use on Oahu once again increased. This year, the percentage of belted occupants rose from 82.3% in 2001 to 83.5% in 2002. For a second year in a row, Maui's use

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<sup>1</sup> When traffic volume became too high for reliable observations on every vehicle, every fifth vehicle was used.

rate dropped—this time from 78.8% in 2001 to 77.6% in 2002. Overall, the results are consistent with patterns that have been observed over the past several years. These include Hawaii’s steady increase in belt use; Maui’s low belt use rate—which consistently lags behind the rest of the state; Oahu’s increasing belt use rates; and Kauai’s state-leading seat belt use rates. Figure 2 illustrates 2002 seat belt use rates for the four major islands and statewide.

**FIGURE 2**  
**SEAT BELT USE RATE BY ISLAND, 2002**

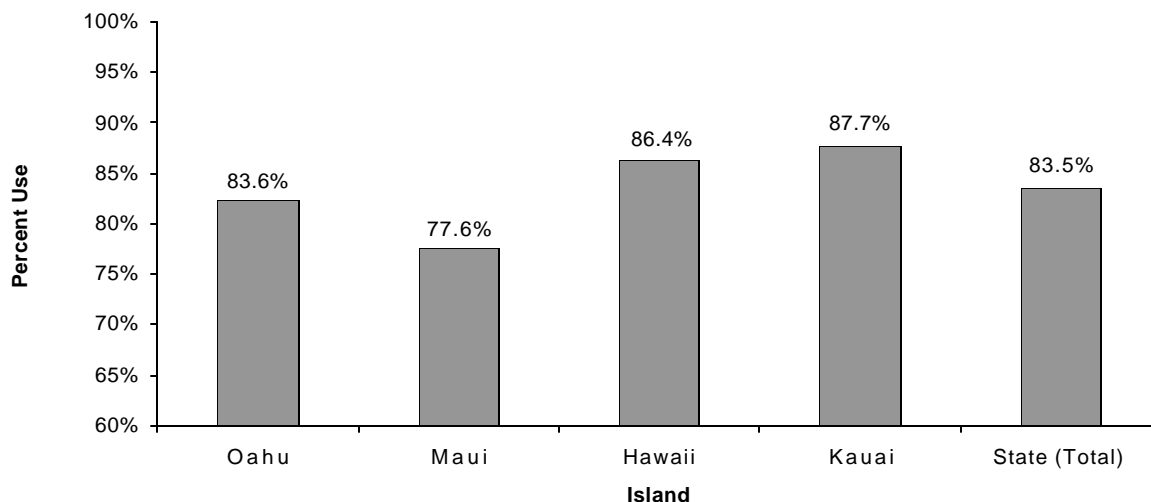


Table 1 details seat belt use rates by island (complete tables are found in Appendix A1 through A5 of this report). This year’s results were consistent with results from previous years. Of the 37,138 drivers observed, 85.1% were belted; and of the 13,650 passengers observed 79.1% were belted. The lowest driver and passenger belt use rates were observed on Maui. Only 80.1% of drivers and 71.5% of passengers on Maui were belted. On Oahu, while the driver belt use rate was 85.3%, passenger rates lagged at 78.8%. The belt use rates for both drivers and passengers on Hawaii and Kauai both exceeded 80%. Hawaii’s belt use rate for drivers was 87.7%, while the belt use rate for passengers was 83.6%. The highest driver and passenger belt use rates were found on Kauai, with 88.5% of drivers and 85.4% of passengers belted. Site-specific seat belt use rates and locations for all islands are found on maps located in Appendix A11 of this report.

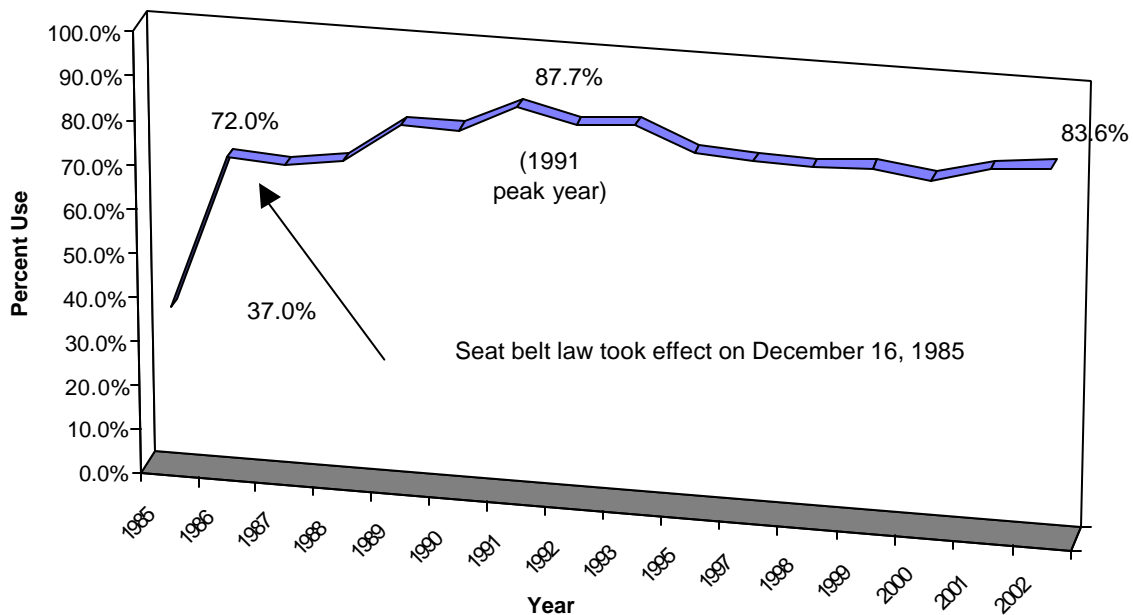
**TABLE 1**  
**SEAT BELT USE BY COUNTY, 2002**

ISLAND	DRIVER		PASSENGER		TOTAL		
	Total	% Drivers Belted	Total	% Passenger Belted	Total Belted	Total Observed	% Total Belted
Oahu	22,494	85.3%	7,633	78.8%	25,195	30,127	83.6%
Maui	5,711	80.1%	2,301	71.5%	6,220	8,012	77.6%

<b>Hawaii</b>	5,149	<b>87.7%</b>	2,240	<b>83.6%</b>	6,386	7,389	<b>86.4%</b>
<b>Kauai</b>	3,784	<b>88.5%</b>	1,476	<b>85.4%</b>	4,611	5,260	<b>87.7%</b>
<b>Total</b>	37,138	<b>85.1%</b>	13,650	<b>79.1%</b>	42,412	50,788	<b>83.5%</b>

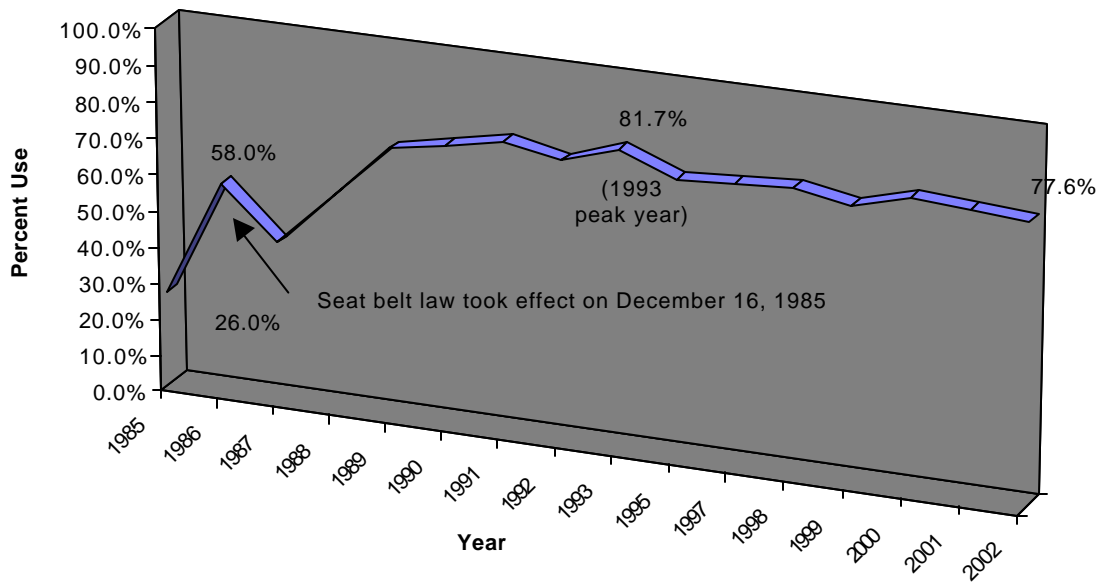
Figures 3 through 6 show overall seat belt use rates by year on the four major Hawaiian islands. Observed seat belt use once again rose on Oahu. This year's reported use rate was 83.6%--an increase over the 82.3% belt use rate observed during the previous year. While Oahu's belt use rate continues to climb slowly, it has yet to reach the peak rate of 87.7% it established in 1991 (Figure 3). Only Kauai has reached a similar plateau over the years.

**FIGURE 3**  
**OAHU OVERALL SEAT BELT USE BY YEAR, 1985-2002**



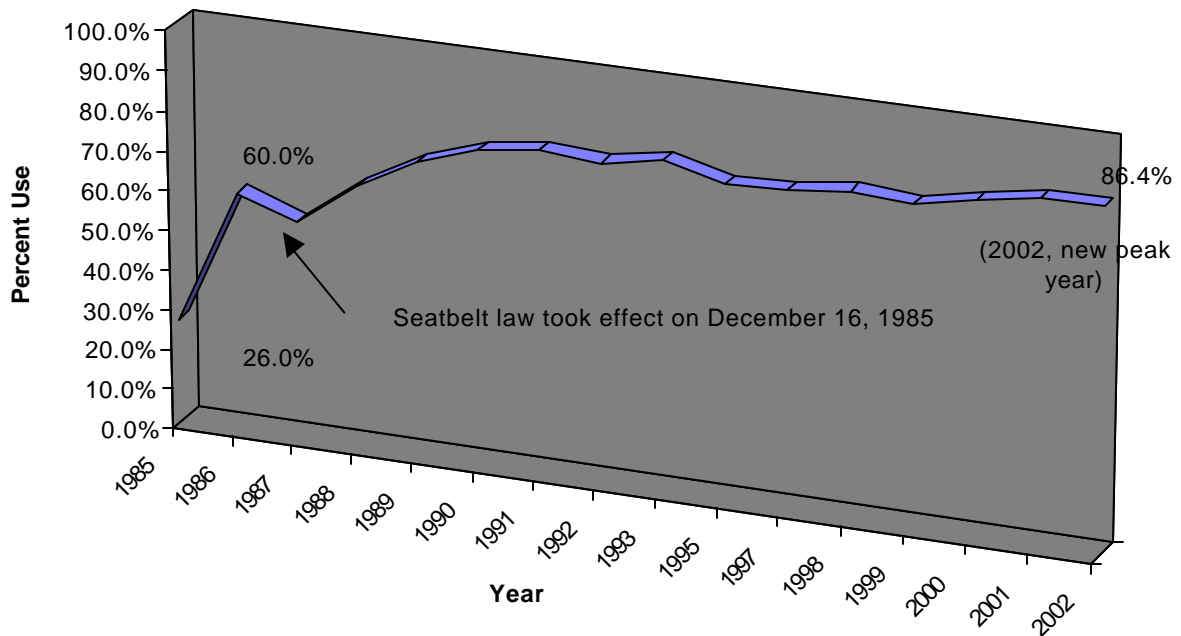
Maui's belt use rate dropped for a second year in a row and continues to be the lowest in the state. In 2002, only 77.6% of occupants observed were belted. Last year, the use rate was 78.8%. Since 1985, the only year Maui's belt use rate exceeded 80% was in 1993, when 81.7% of those observed were belted. Figure 4 illustrates seat belt use rates on Maui over the years.

**FIGURE 4**  
**MAUI OVERALL SEAT BELT USE BY YEAR, 1985-2002**



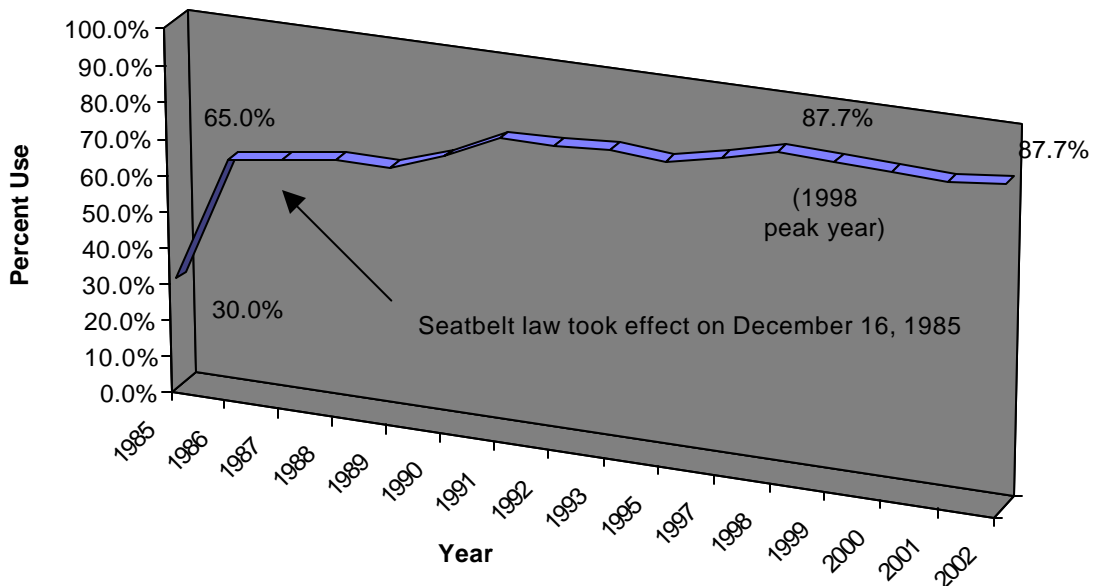
The seat belt use rate on the island of Hawaii increased in 2002 and has, for the third year in a row, surpassed the peak rate established in the previous year—albeit by a very miniscule margin. In 2002, the seat belt use rate reached 86.4%. The previous peak use rate was recorded at 86.3% in 2001 (Figure 5).

**FIGURE 5**  
**HAWAII OVERALL SEAT BELT USE BY YEAR, 1985-2002**



On Kauai, seat belt use rates among observed vehicle occupants increased from 86.7% in 2001 to 87.7% in 2002. This year's rate matches the peak established in 1998 (Figure 6). Overall, Kauai's seat belt use rate continues to be one of the highest in the state.

**FIGURE 6**  
**KAUAI OVERALL SEAT BELT USE BY YEAR, 1985-2002**



## (2) DIFFERENCES BY FACTORS

The following section examines differences in seat belt use rates in relationship to various factors that potentially have an effect upon seat belt use—including vehicle type, traffic volume, weather condition, speed, number of lanes, and day of the week. Over the years, the collected data has shown that seat belt use rates have differed based upon the various factors identified.

Figure 7 contains use rates for drivers and front-seat passengers by vehicle type. Drivers and passengers in cars (86.0%) were belted most often. Occupants in sports utility vehicles (83.5%) and vans (83.3%) followed. Once again, the lowest percentage of belted occupants by vehicle type was observed in trucks (76.2%). These results are consistent with previous surveys.

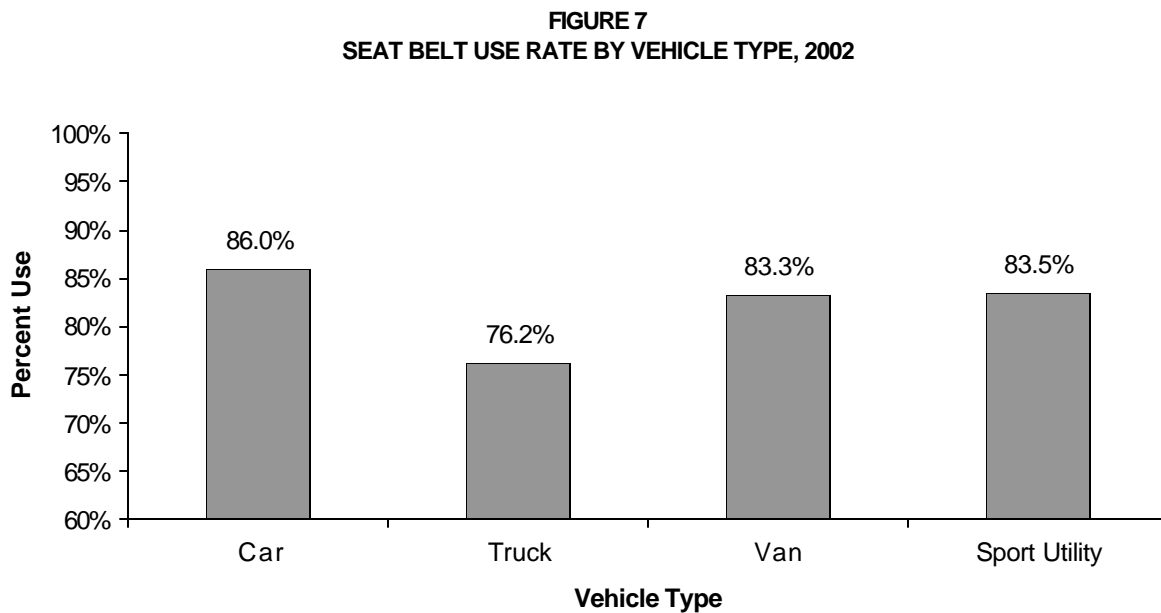


Figure 8 shows the difference in seat belt use rate by traffic volume. Seat belt use at low volume sites was 76.3%. In high volume areas, the use rate was 84.1%. These findings are consistent with previous surveys.

**FIGURE 8**



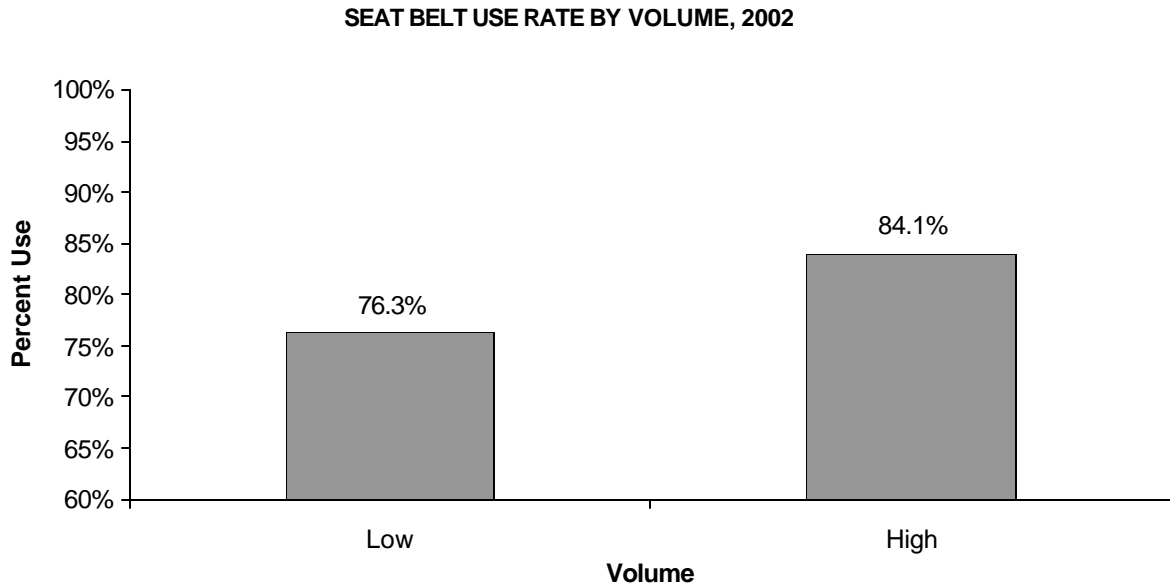


Figure 9 illustrates differences in seat belt use under various weather conditions. The belt use rate under sunny conditions was 82.0%. The belt use rate observed under partly cloudy conditions increased to 84.7%. With rainfall, the use rate increased yet again to 86.8%.

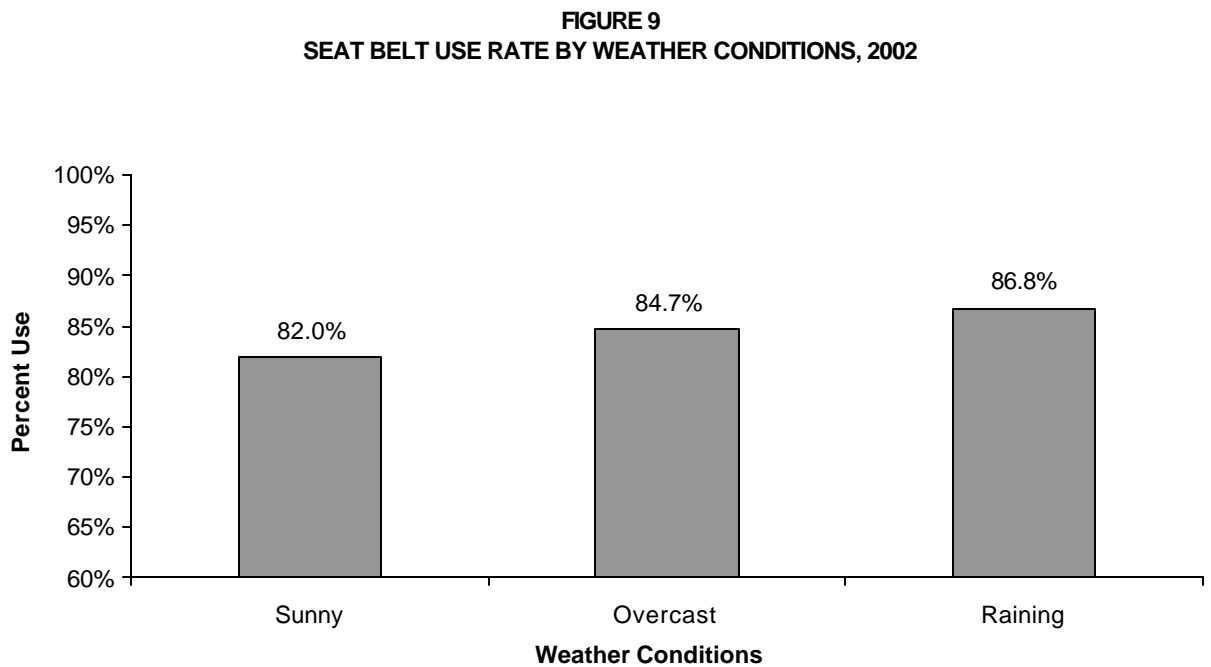
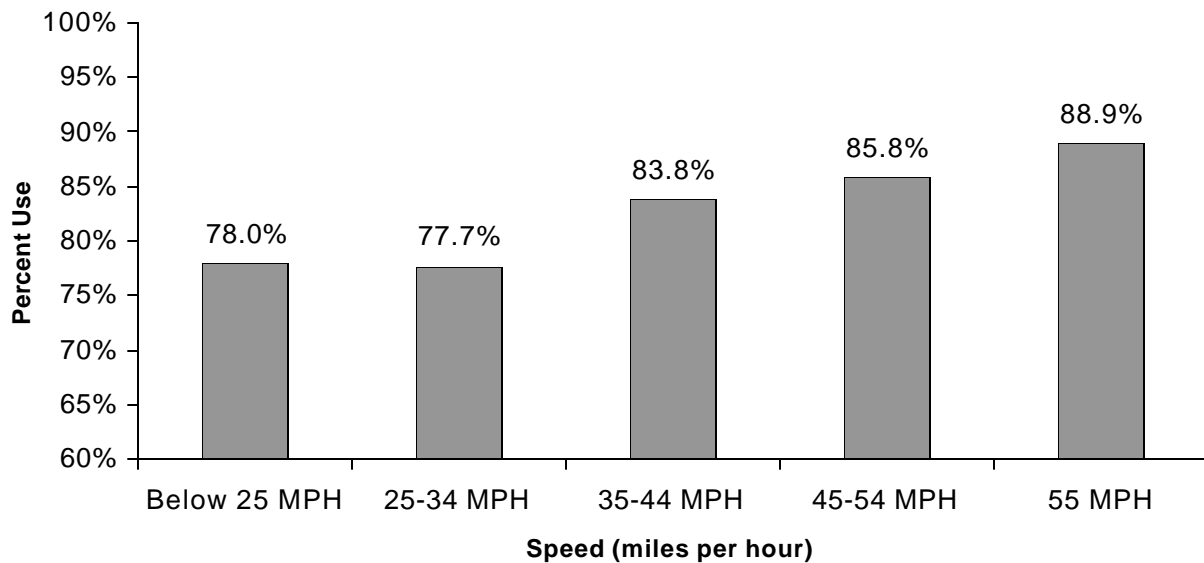


Figure 10 shows that—in general—seat belt use increased as the speed limit increased.

**FIGURE 10**  
**SEAT BELT USE RATE BY SPEED, 2002**



No recognizable pattern can be seen in Figure 11, which depicts occupant belt use rates by number of lanes. The number of lanes observed was recorded at each site. At high volume sites, only one direction of traffic was observed; while at low volume sites and shopping malls, all directions of traffic were observed. Five lane sites consisted of shopping center sites, which generally have very low speed limits.

**FIGURE 11**  
**SEAT BELT USE RATE BY LANES, 2002**

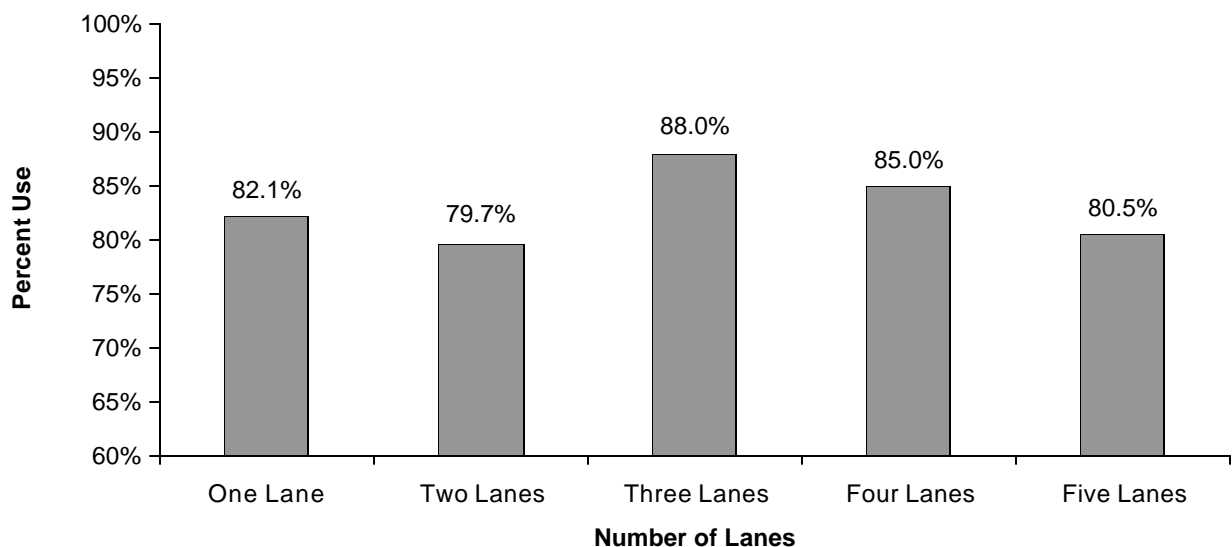


Figure 12 shows a slight difference between weekday and weekend seat belt use. This year's results concur with findings from previous studies that show that weekday belt use is greater than weekend belt use.

**FIGURE 12**  
**SEAT BELT USE RATE BY DAY OF THE WEEK, 2002**

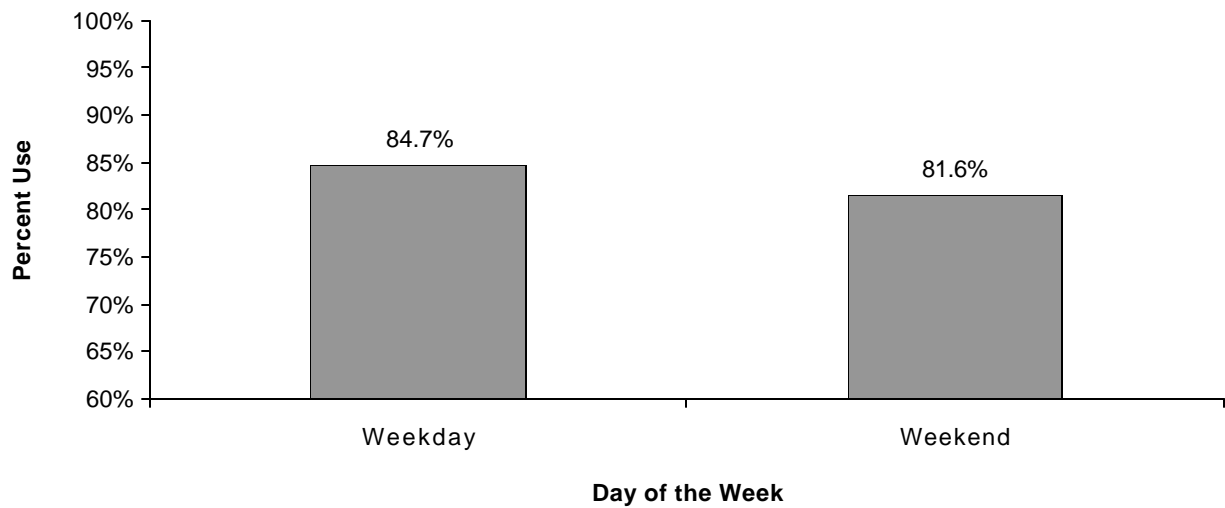


Table 2 provides a detailed breakdown of seat belt use rates by various factors (the complete table is found in Appendix A1 through A5 of this report).

**TABLE 2**  
**SEAT BELT USE BY FACTORS, 2002**

FACTOR	DRIVER		PASSENGER		TOTAL		
	Total Observed	% Drivers Belted	Total Observed	% Passengers Belted	Total Belted	Total Observed	% Total Belted
<b>VEHICLE TYPE</b>							
Car	20,421	87.6%	7,497	81.7%	24,017	27,918	86.0%
Truck	7,181	78.4%	2,307	69.3%	7,229	9,488	76.2%
Van	4,333	85.0%	1,819	79.4%	5,126	6,152	83.3%
Sport Utility	5,203	84.9%	2,027	80.2%	6,040	7,230	83.5%
<b>VOLUME</b>							
Low	2,647	77.9%	942	72.0%	2,740	3,589	76.3%
High	34,491	85.7%	12,708	79.6%	39,672	47,199	84.1%
<b>TIME PERIOD</b>							
7:00 AM - 10:59 AM	10,337	83.1%	3,798	78.9%	11,585	14,135	82.0%

<b>11:00 AM - 2:59 PM</b>	9,149	<b>84.7%</b>	3,420	<b>78.0%</b>	10,420	12,569	<b>82.9%</b>
<b>3:00 PM - 6:59 PM</b>	17,652	<b>86.6%</b>	6,432	<b>79.8%</b>	20,407	24,084	<b>84.7%</b>
<b>WEATHER</b>							
<b>Sunny</b>	19,902	<b>83.8%</b>	7,269	<b>76.8%</b>	22,265	27,171	<b>81.9%</b>
<b>Overcast</b>	12,159	<b>85.8%</b>	4,384	<b>81.6%</b>	14,008	16,543	<b>84.7%</b>
<b>Raining</b>	5,077	<b>88.7%</b>	1,990	<b>81.8%</b>	6,132	7,067	<b>86.8%</b>
<b>SPEED</b>							
<b>Below 25 MPH</b>	4,486	<b>81.2%</b>	1,744	<b>70.0%</b>	4,861	6,230	<b>78.0%</b>
<b>25-34 MPH</b>	4,695	<b>78.9%</b>	1,585	<b>74.0%</b>	4,879	6,280	<b>77.7%</b>
<b>35-44 MPH</b>	12,631	<b>85.3%</b>	5,015	<b>80.2%</b>	14,792	17,646	<b>83.8%</b>
<b>45-54 MPH</b>	131,245	<b>87.4%</b>	3,818	<b>81.2%</b>	12,928	15,063	<b>85.8%</b>
<b>55 or more MPH</b>	4,081	<b>89.9%</b>	1,488	<b>86.2%</b>	4,952	5,569	<b>88.9%</b>
<b>LANES</b>							
<b>One Lane</b>	12,552	<b>83.6%</b>	5,159	<b>78.5%</b>	14,547	17,711	<b>82.1%</b>
<b>Two Lanes</b>	9,779	<b>81.5%</b>	3,763	<b>75.1%</b>	10,795	13,542	<b>79.7%</b>
<b>Three Lanes</b>	12,596	<b>89.3%</b>	3,914	<b>84.0%</b>	14,531	16,510	<b>88.0%</b>
<b>Four Lanes</b>	1,702	<b>87.1%</b>	604	<b>79.0%</b>	1,960	2,306	<b>85.0%</b>
<b>Five Lanes</b>	509	<b>83.1%</b>	210	<b>74.3%</b>	579	719	<b>80.5%</b>
<b>WEEK</b>							
<b>Weekday</b>	23,287	<b>86.4%</b>	7,605	<b>79.6%</b>	26,176	30,892	<b>84.7%</b>
<b>Weekend</b>	13,851	<b>83.0%</b>	6,045	<b>78.4%</b>	16,236	19,896	<b>81.6%</b>

### (3) DIFFERENCES BETWEEN GENDERS

The methodology employed for the gender study is similar to the one used for the main seat belt survey. For the gender study, 10 sites were selected throughout Oahu. Two trained observers were stationed at each site for approximately 40 minutes. The first 20 minutes were spent observing front seat occupants—drivers and passengers—of one gender. The remaining time was used to observe the other gender. One member was responsible for observing vehicles while the other recorded the data. The data were then processed and analyzed. A complete table can be found in Appendix A6.

Figure 12 shows that observed male and female belt use rates were similar in 2002, with 86.7% of all males and 90.3% of all females observed wearing their seat belt. This year's findings reflect the pattern of higher seat belt use rates among females that has been observed in previous surveys.

**FIGURE 12**  
**SEAT BELT USE RATE BY GENDER, 2002**

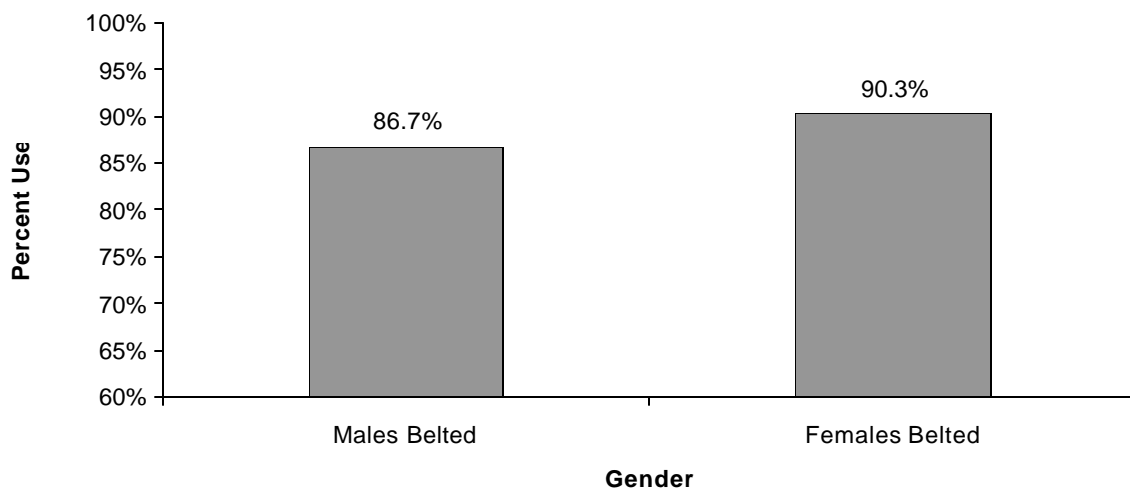


Table 3 shows the breakdown of factors by gender.

**TABLE 3**  
**SEAT BELT USE RATE BY GENDER, 2002**

FACTORS	DRIVER		PASSENGER		TOTAL		
	Total Observed	% Drivers Belted	Total Observed	% Passengers Belted	Total Belted	Total Observed	% Total Belted
<b>OVERALL BELT USE</b>							
Oahu (Males)	749	86.9%	151	78.8%	770	900	85.6%
Oahu (Females)	360	92.5%	225	83.1%	520	585	88.9%
<b>VOLUME</b>							
Low (Males)	58	87.9%	9	77.8%	58	67	86.6%
Low (Females)	15	86.7%	15	60.0%	22	30	73.3%
High (Males)	691	86.8%	142	78.9%	712	833	85.5%
High (Females)	345	92.8%	210	84.8%	498	555	89.7%
<b>VEHICLE TYPE</b>							
Car (Males)	444	89.9%	92	88.4%	476	536	88.8%

<b>Car (Females)</b>	262	<b>90.0%</b>	155	<b>90.2%</b>	372	417	<b>89.2%</b>
<b>Van (Males)</b>	91	<b>86.1%</b>	29	<b>77.8%</b>	93	120	<b>77.5%</b>
<b>Van (Females)</b>	50	<b>87.0%</b>	23	<b>85.7%</b>	65	73	<b>89.0%</b>
<b>Truck (Males)</b>	140	<b>83.1%</b>	16	<b>80.6%</b>	129	156	<b>82.7%</b>
<b>Truck (Females)</b>	16	<b>95.7%</b>	13	<b>85.1%</b>	26	29	<b>89.7%</b>
<b>Sport (Males)</b>	74	<b>85.0%</b>	14	<b>90.6%</b>	72	88	<b>81.8%</b>
<b>Sport (Females)</b>	32	<b>91.0%</b>	34	<b>87.3%</b>	57	66	<b>86.4%</b>
<b>TIME PERIODS</b>							
<b>7:00 AM- 10:59 AM (Males)</b>	32	<b>93.8%</b>	8	<b>75.0%</b>	36	40	<b>90.0%</b>
<b>7:00 AM- 10:59 AM (Females)</b>	0	<b>0.00%</b>	0	<b>0.00%</b>	0	0	<b>0.00%</b>
<b>11:00 AM- 2:59 PM (Males)</b>	276	<b>85.9%</b>	48	<b>79.2%</b>	275	324	<b>84.9%</b>
<b>11:00 AM- 2:59 PM (Females)</b>	144	<b>91.7%</b>	84	<b>81.0%</b>	200	228	<b>87.7%</b>
<b>3:00 AM- 6:59 PM (Males)</b>	441	<b>87.1%</b>	95	<b>79.0%</b>	459	536	<b>85.6%</b>
<b>3:00 AM- 6:59 PM (Females)</b>	216	<b>93.1%</b>	141	<b>84.4%</b>	320	357	<b>89.6%</b>
<b>WEATHER</b>							
<b>Sunny (Males)</b>	423	<b>87.2%</b>	89	<b>76.4%</b>	437	512	<b>85.4%</b>
<b>Sunny (Females)</b>	135	<b>87.4%</b>	90	<b>80.0%</b>	190	225	<b>84.4%</b>
<b>Partly Cloudy (Males)</b>	326	<b>86.5%</b>	62	<b>82.3%</b>	333	388	<b>85.8%</b>
<b>Partly Cloudy (Females)</b>	225	<b>95.6%</b>	135	<b>85.2%</b>	330	360	<b>91.7%</b>
<b>SPEED</b>							
<b>25 - 34 MPH (Males)</b>	302	<b>86.4%</b>	61	<b>75.4%</b>	307	363	<b>84.6%</b>
<b>25 - 34 MPH (Females)</b>	117	<b>87.2%</b>	79	<b>77.2%</b>	163	196	<b>83.2%</b>
<b>35 - 44 MPH (Males)</b>	330	<b>89.1%</b>	70	<b>81.4%</b>	351	400	<b>87.8%</b>
<b>35 - 44 MPH (Females)</b>	173	<b>95.4%</b>	103	<b>85.4%</b>	253	276	<b>91.7%</b>
<b>45 - 54 MPH (Males)</b>	117	<b>82.1%</b>	20	<b>80.0%</b>	112	137	<b>81.8%</b>
<b>45 - 54 MPH (Females)</b>	70	<b>94.3%</b>	43	<b>88.4%</b>	104	113	<b>92.0%</b>
<b>LANES</b>							
<b>One Lane (Males)</b>	58	<b>87.9%</b>	9	<b>77.8%</b>	58	67	<b>86.6%</b>
<b>One Lanes (Females)</b>	15	<b>86.7%</b>	15	<b>60.0%</b>	22	30	<b>73.3%</b>
<b>Two Lanes (Males)</b>	385	<b>87.0%</b>	76	<b>81.6%</b>	397	461	<b>86.1%</b>
<b>Two Lanes (Females)</b>	216	<b>95.4%</b>	105	<b>87.6%</b>	298	321	<b>92.8%</b>
<b>Three Lanes (Males)</b>	306	<b>86.6 %</b>	66	<b>75.8%</b>	315	372	<b>84.7%</b>
<b>Three Lanes (Females)</b>	129	<b>88.4%</b>	105	<b>81.9%</b>	200	234	<b>85.5%</b>
<b>WEEK</b>							
<b>Weekday (Males)</b>	749	<b>86.9%</b>	151	<b>78.8%</b>	770	900	<b>85.6%</b>
<b>Weekday (Females)</b>	360	<b>92.5%</b>	225	<b>83.1%</b>	520	585	<b>88.9%</b>

#### (4) DIFFERENCES BETWEEN DAY AND NIGHT TIME PERIODS

Ten well-lit sites were selected on Oahu for night observations. These sites were then compared with observations taken at the same sites observed during daylight hours. Two trained observers were stationed for approximately 40 minutes at each site at various times between the hours of 7 p.m. and 12 a.m. The teams documented seat belt use. One was responsible for observing all front-seat occupants while the second member recorded data into the Palm database. The data were then processed and analyzed using statistical software.

Figure 13 shows that seat belt use during the day (85.4%) exceeded that of night (82.3%). This finding is consistent with previous studies. A complete table can be found in Appendix A7.

**FIGURE 13**  
**SEAT BELT USE RATE BY TIME PERIOD, 2002**

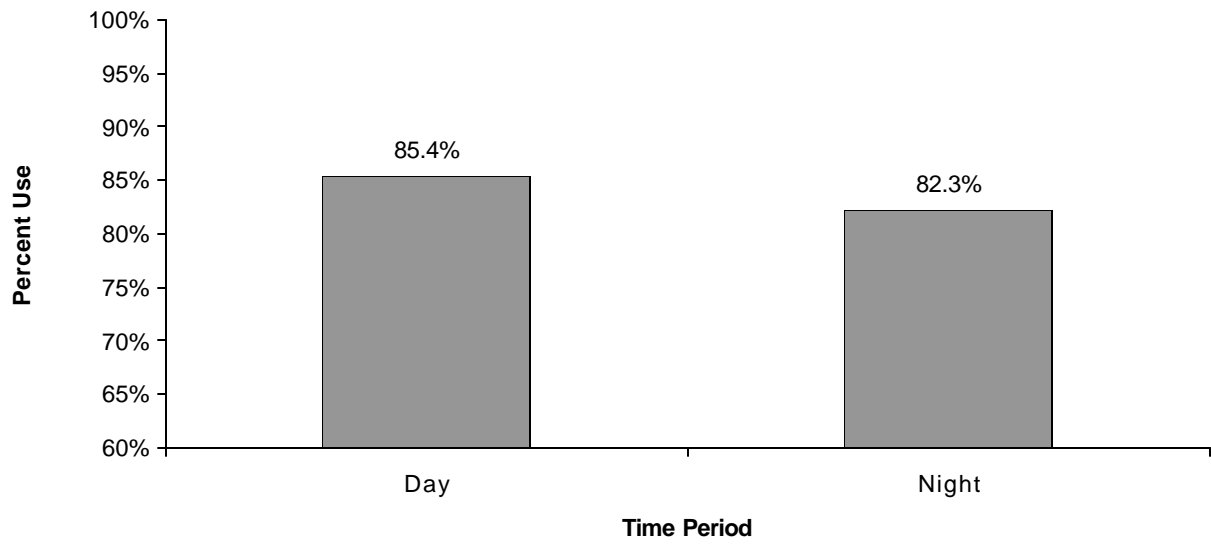


Table 4 shows the seat belt use rate differences between day and night time periods by factors.

**TABLE 4**  
**SEAT BELT USE RATE BY DAY AND NIGHT TIME PERIODS, 2002**

FACTORS	DRIVER		PASSENGER		TOTAL		
	Total Observed	% Drivers Belted	Total Observed	% Passengers Belted	Total Belted	Total Observed	% Total Belted
<b>OVERALL BELT USE</b>							
Oahu (Day)	2,691	86.6%	929	81.8%	3,090	3,620	85.4%
Oahu (Night)	1,514	83.6%	483	78.3%	1,643	1,997	82.3%
<b>VOLUME</b>							
High (Day)	2,691	86.6%	929	81.8%	3,090	3,620	85.4%
High (Night)	1,514	83.6%	483	78.3%	1,643	1,997	82.3%
<b>BY VEHICLE TYPE</b>							
Car (Day)	1,613	88.3%	587	84.0%	1,918	2,200	87.2%
Car (Night)	946	86.2%	302	81.1%	1,060	1,248	84.9%
Van (Day)	352	86.9%	147	78.9%	422	499	84.6%
Van (Night)	169	82.8%	61	75.4%	186	230	80.9%
Truck (Day)	381	79.8%	91	70.3%	368	472	78.0%
Truck (Night)	186	72.6%	49	63.3%	166	235	70.6%
Sport Utility (Day)	345	85.5%	104	83.7%	382	449	85.1%
Sport Utility (Night)	213	82.2%	71	78.8%	231	284	81.3%
<b>BY SPEED</b>							
25 - 34 MPH (Day)	702	87.3%	212	86.3%	796	914	87.1%
25 - 34 MPH (Night)	294	79.9%	152	75.0%	349	446	78.3%
35 - 44 MPH (Day)	1,705	86.0%	629	80.3%	1,971	2,334	84.5%
35 - 44 MPH (Night)	984	83.6%	283	78.1%	1,044	1,267	82.4%
45 - 54 MPH (Day)	284	88.4%	88	81.8%	323	372	86.8%
45 - 54 MPH (Night)	236	87.7%	48	89.6%	250	284	88.0%
<b>BY LANES</b>							
Two Lanes (Day)	965	85.8%	290	83.1%	1,069	1,255	85.2%
Two Lanes (Night)	547	80.6%	152	73.7%	553	699	79.1%
Three Lanes (Day)	1,726	87.0%	639	81.2%	2,021	2,365	85.5%
Three Lanes (Night)	967	85.2%	331	80.4%	1,090	1,298	84.0%
<b>BY WEEK</b>							
Weekday (Day)	2,471	86.8%	814	82.1%	2,813	3,285	85.6%
Weekday (Night)	1,514	83.6%	483	78.3%	1,643	1,997	82.3%
Weekend (Day)	35	84.1%	115	80.0%	277	335	82.7%



Weekend (Night)	0	0.00%	0	0.00%	0	0	0.00%
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## V. CONCLUSION AND RECOMMENDATIONS

Results of the 2002 seat belt survey indicate that seat belt use increased statewide. Between 2001 and 2002, the seat belt use rate increased from 82.5% to 83.5%. Use rates that high have not been observed since 1994. This year's rate puts Hawaii ahead of the recently adjusted 2003 national goal of 78%. Because the overall frequency for statewide observations is very large (50,788), the statistical margin of error with 95% confidence is small ( $\pm 0.32\%$ ). Because of smaller counts on the neighbor islands, the margin of error is slightly higher (between  $\pm 0.41\%$  to  $\pm 0.92\%$ ) depending on the county.

The following recommendations are a result of the findings of the 2002 survey:

- (1) While Hawaii's seat belt use rate rose for a second year in a row, and while the state has one of the highest seat belt use rates in the nation, room for improvement exists. Studies have shown that seat belt use reduces crash-related fatalities and injuries. Hawaii will benefit from continued increases in seat belt use. Statewide seat belt use has yet to reach the 85% peak established in 1991.
- (2) Further study needs to be done to understand locational differences in belt use. Why has Kauai consistently had the highest seat belt use rates observed in the state since 1997 and why have rates on the island of Hawaii steadily increased since 2000?
- (3) Area-specific education and enforcement policies may need to be formulated and implemented. For instance, rural areas such as Waianae (73.9%), Koolauloa (74.9%), and Waialua (69.6%) have consistently had the lowest seat belt rates in the state over the past several years and may need to be targeted for special attention. Also, Maui (77.6%), which consistently has the lowest observed island-wide use, needs to be targeted.
- (4) The effects of enforcement, penalties for non-compliance, and public information need to be evaluated. Study of enforcement techniques and information dissemination in districts, counties, and states with high belt use rates may provide valuable information that could be used to increase seat belt use in areas with consistently low belt use rates.
- (5) Further examination is necessary in order to understand the reasons for lower seat belt use rates during evening hours.
- (6) The issue of gender-related differences in seat belt use should be looked into in order to assess the effectiveness of potential gender-specific education targeted at groups with lower compliance rates.

Overall, in order to effectively increase seat belt use rates, closer examination of education and enforcement initiatives in states and counties with high belt use rates is necessary. The State should

consider funding such research, as well as implementation of pilot programs based upon these models. Research pertaining to locational, temporal, and behavioral factors could also supplement such initiatives.

## **APPENDIX A1 – A10**

## **APPENDIX A11**

**OAHU:                MAPS 1 - 5**

**MAUI:                MAPS 6 - 7**

**HAWAII:            MAP 8**

**KAUAI:              MAP 9**